

# *Afnic Technology Backdrop Survey*

**Summary of survey results  
led by the Scientific Council of Afnic,  
conducted by INIT**

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# 1. Introduction

This document summarizes the results of the 2016 edition of the Afnic Technology Backdrop Survey. Sections 1-3 recall the background, objectives, structure and methodology of the survey.

It then introduces the main results of the survey, starting with the characteristics (profile) of the population of respondents in Section 4. The results are reviewed in section 5 by level of agreement: consensus or divergence.

Finally, Section 6 discusses the outlooks for exploiting the results of the survey and for producing future editions.

## 1.1. Survey background

- Year-end 2008 – Early 2011: 1<sup>st</sup> edition

The Afnic Scientific Council asked the question:

*"Is it possible to have a shared vision of technological trends in the medium to long term?"*

ICT users and professionals were invited to respond to an online survey.

The survey was published in 2011:

<http://www.slideshare.net/AFNIC/resultats-toiledefondtechafnic-6786477>

- 2012 (May – June): 2nd edition

The survey was led by the Afnic Scientific Council in conjunction with INIT:

<http://www.afnic.fr/fr/l-afnic-en-bref/actualites/actualites-generales/6392/show/l-internet-dans-10-ans-des-professionnels-repondent-a-l-enquete-afnic.html>

- 2014 (February-March): 3rd edition

The survey was led by the Afnic Scientific Council in conjunction with INIT:

<http://www.afnic.fr/fr/l-afnic-en-bref/actualites/actualites-generales/7648/show/lancement-de-la-3e-edition-de-l-enquete-toile-de-fond-technologique-afnic.html>

## 1.2. Survey objectives

*Building a technology backdrop with 10-year forecasts*

*Monitor trends and technological developments by periodically renewing the survey*

*Use the backdrop as a decision support tool to launch innovative services and/or products*

*Share the results of the survey with the scientific and technical Internet community and help build a common vision.*

**Consensus is the basis for the backdrop, which highlights the broad trends**

**Forecasts that oppose two sub-populations of respondents ("divergence into two schools of thought") are used to integrate alternative scenarios with high levels of uncertainty into the backdrop.**

## 2. Themes and respondents

### 2.1. The themes of the questionnaire

The questionnaire focused on two themes:

*The overall architecture of the Internet*

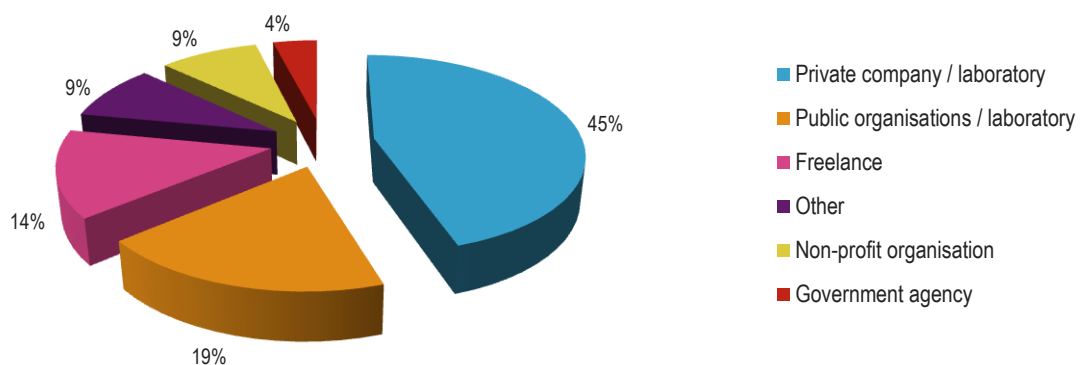
*The Internet Domain Name System (DNS)*

### 2.2. Respondents: numbers and types

207 respondents took part in the survey.

Their profiles are as follows:

- Private company / laboratory
- Public organisations / laboratory
- Freelance
- Other
- Non-profit organisation
- Government agency



### 3. Methodology

The questions asked require answers on the following scale:

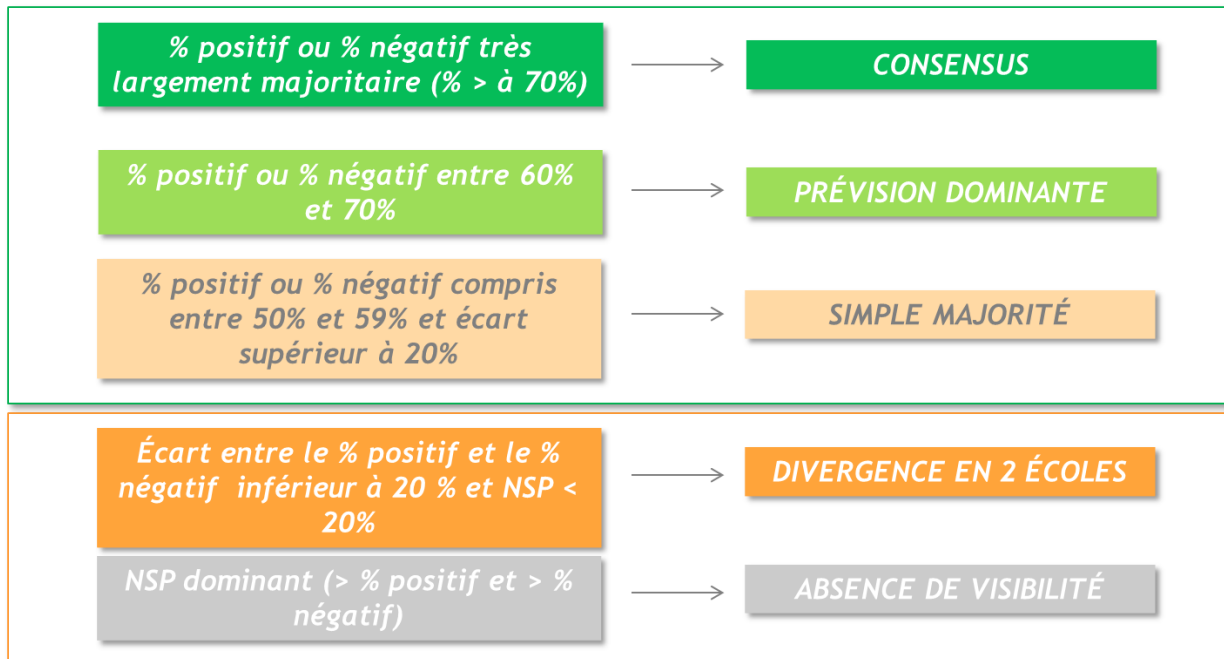
- **Totally agree (positive)**
- **Somewhat agree (positive)**
- **Somewhat disagree (negative)**
- **Totally disagree (negative)**
- **No opinion**

The call for participation was issued by Afnic to contacts by electronic means (e-mail, Twitter, etc.)

The respondents were invited to transfer the invitation to their acquaintances.

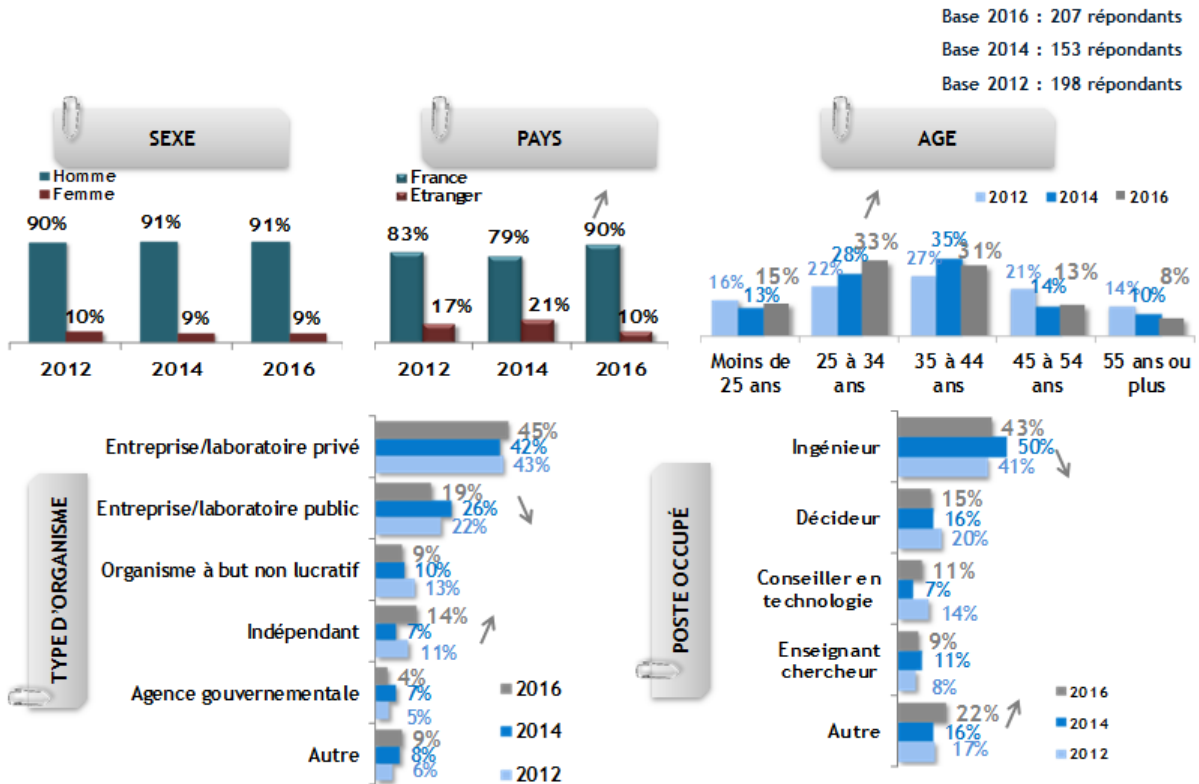
Thresholds were set to determine if there was consensus (high or low level) or divergence (two forms) among respondents on the questions asked (assertions).

These thresholds are calculated based on the percentages of positive or negative responses on the four-level scale above (Totally agree ... Totally disagree):



## 4. Profiles of Respondents

The following is a graphic summary of the characteristics of the respondent population, with reminders of the figures for the 2012 and 2014 surveys.



## 5. Summary of survey results

### 5.1. Observed consensus

*The Internet will still be the dominant electronic communications network*

*The infrastructure of the Internet will continue to evolve to handle the traffic for all applications and services*

*The DNS will remain the dominant Internet naming and resolution system*

*The routing protocols and algorithms used in today's Internet will withstand the growth of the Internet*

*The use of personal data from user DNS queries will be generalized by DNS resolver operators*

### 5.2. Two differing schools of thought

Two differing schools of thought have persisted since the survey in 2014.

*The different types of wired Internet access (DSL, fiber, etc.) will be neutral in the sense that these access systems let through all the traffic exchanged without judging its nature*

*Local DNS resolvers (caches installed on user machines) will play a significant role (25% or more) compared with ISP resolvers or "open" resolvers of the Google DNS type"*

*In the case of DNS requests assigned to a third party (ISPs or suppliers of alternative solvers), the use of alternative solvers will exceed the use of one's own ISP resolver*



### 5.3. Dominant forecasts

Some dominant forecasts have persisted since the survey 2014:

*The data carried by the DNS queries are regarded as potentially personal data*

*The different types of access to wireless Internet (3G, wifi hotspots, etc.) will be neutral in the sense that these access systems let through all the traffic exchanged without judging its nature → **forecast with a negative response (65%)***

*The Internet namespace will always rely on a single root (currently, this root is managed by ICANN)*

"Simple majority" in 2014 turning into "dominant forecast" in 2016:

*Internet routing protocols will change significantly by integrating security mechanisms at the global level.*

### 5.4. Simple majority

*The country-code TLDs (e.g. .fr, .de, .it, etc.) will retain their attractiveness in relation to the (new) generic TLDs (e.g. .com, .net, .paris, .bzh, etc.)*

"Dominant forecast" in 2014 turning into "simple majority" in 2016:

*The DNS will be more secure than it is today*

## 6. Outlooks

The next edition of the survey will allow us to:

- Monitor important trends and developments in the backdrop.
- Introduce additional questions as the technology develops.
- Delete questions on issues that no longer matter or are gradually fading.
- Share - as always - the results with the French and global Internet community!

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